Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	

COMMENTS OF NTCA–THE RURAL BROADBAND ASSOCIATION

Michael Romano
Tamber Ray
NTCA THE RURAL BROADBAND ASSOCIATION
4121 Wilson Boulevard, Suite 1000
Arlington, VA 22203
mromano@ntca.org
703-351-2000 (Tel)

July 19, 2019

TABLE OF CONTENTS

EXECUTIVE SUMMARY

NTCA–The Rural Broadband Association ("NTCA") shares the Commission's goal of ensuring Alternative Connect America Cost Model ("A-CAM") support is not used to provide broadband service solely to discrete subsets of supported areas or only to individual locations that may be easier and less costly to reach. At the same time, as "real world" economics indicate and as the model's own design reinforces, the costs of building rural broadband networks turn not on the act of deploying a connection to any single location, but rather on the deployment and maintenance of a network *throughout* an entire area.

NTCA therefore respectfully requests that the Commission decline to reduce support for those A-CAM electors that are willing to commit, as described herein and consistent with the level of funding they receive, to serve throughout their supported areas. To do so would be consistent with the model's design, which reflects costs incurred to deploy and maintain the entire network and cannot be attributed on a piecemeal basis to individual locations. If the Commission decides nonetheless that it will reduce A-CAM support in some way for an operator that has otherwise committed to serve throughout its supported areas, the Commission must first conduct an evidentiary review to assess what specific costs might be shed or avoided as a result of locations that are found not to exist despite the initial model allocation, and then quantify the degree to which any of those costs are in fact included within A-CAM support such that support should then be reduced.

Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
Connect America Fund	)	WC Docket No. 10-90

COMMENTS OF
NTCA–THE RURAL BROADBAND ASSOCIATION

NTCA–The Rural Broadband Association ("NTCA")[1] hereby submits these Comments in response to the request for comment issued by the Federal Communications Commission (the "Commission") regarding potential adjustments to Alternative Connect America Cost Model ("A-CAM") support due to variations and discrepancies in the number of locations that exist in eligible census blocks as compared to A-CAM location count estimates.[2]

I. INTRODUCTION

NTCA recognizes and shares the Commission's goal of ensuring A-CAM support is not used to provide broadband service only to discrete subsets of supported areas or only to individual locations that may be easier and less costly to reach. At the same time, as discussed

[1] NTCA represents approximately 850 independent, community-based telecommunications companies and cooperatives and more than 400 other firms that support or are themselves engaged in the provision of communications services in the most rural portions of America. All NTCA service provider members are full service rural local exchange carriers and broadband providers, and many provide fixed and mobile wireless, video, satellite and other competitive services in rural America as well.

[2] *Wireline Competition Bureau Issues Corrected Alternative Connect America Mode II Offers to 37 Companies, Extends the Election Deadline, and Seeks Comment on Location Adjustment Procedures*, Public Notice, WC Docket No. 10-90, DA 19-504 (rel. June 5, 2019) ("Public Notice").

further herein and as the Public Notice and other Commission orders and notices recognize,[3] there is a need for a reasonable process to take stock of how substantially the model can miss in allocating locations to eligible census blocks and to provide for adjustments that properly recognize the costs of delivering on the mission of universal service in rural areas.

Indeed, NTCA believes that this Public Notice provides the Commission with an opportunity to make better use of the model, consistent with its intended design, to promote universal service and track more closely to the realities of rural network deployment.[4] More specifically, NTCA encourages the Commission to recognize that presuming the costs of broadband deployment are incurred on a location-by-location basis misses the mark not only because of the difficulty in accurately identifying the number of serviceable locations in an area, but also due to the fact – as the model design itself reinforces – that providers' costs of deploying broadband are based largely, if not nearly entirely, upon the cost of deploying networks *throughout* areas, without reference to how many specific locations may exist within them.

Accordingly, NTCA recommends the Commission decline to adopt the *pro rata* approach to reducing support adopted in the Connect America Fund ("CAF") Phase II auction based upon the number of locations that exist in the model as compared to facts on the ground, and instead – much like the model itself and the underlying fundamental economics of network deployment – consider the costs of deploying a network *throughout* the supported area in determining what, if

---

[3] *See id*.; *see also Connect America Fund*, *et al.*, WC Docket No. 10-90 *et al.*, Report and Order, Order & Order on Reconsideration & Further Notice of Proposed Rulemaking, 31 FCC Rcd 3087, 3102 (2016) ("2016 Rate-of-Return Reform Order"), at ¶ 34 (discussing the prospect of "widely divergent" location counts).

[4] Even as it strongly supported the availability of voluntary options for model-based support, NTCA observed in 2016 that imprecisions in the model may, among other things, give rise to need for future adjustments and recalibration. *See* Petition for Reconsideration and/or Clarification of NTCA, WC Docket No. 10-90 *et al*. (May 25, 2016), at 25.

any, reductions in support should be applied in the event that facts on the ground reveal a different number of locations than the model estimated.[5]

II. BOTH IN THE "REAL WORLD" AND WITHIN THE COST MODEL, NETWORKS ARE BUILT TO SERVE GEOGRAPHIC AREAS RATHER THAN TO CONNECT LOCATIONS ON AN INDIVIDUAL CASE BASIS.

When providers deploy communications networks, they must deploy infrastructure throughout service areas – and conduct the engineering studies, obtain any necessary permits, etc. necessary to install network facilities – regardless of the precise number of locations to be served. Thus, these costs are "fixed" and constitute the vast majority of the cost of deploying broadband services. When a provider receives a request for service within an area throughout which it has deployed a network, to the extent that a given location is not already connected at that time and in the absence of special construction concerns, the provider undertakes to "complete the last mile" by installing a "drop" and placing an Optical Network Terminal ("ONT") or by deploying antennas and other wireless equipment as necessary to connect a given residence or business to the network in relatively short order. While the presence of more locations certainly helps to bring the *per-location* cost down (and thus helps the business case for a project), network deployment costs overall are just as certainly not attributable on a *pro rata* basis to individual locations.

---

[5] To be clear, this is a separate, but related, question to one raised recently regarding what constitutes a serviceable location. *See* Comments of NTCA–The Rural Broadband Ass'n Regarding Northeast Iowa Telephone Co. and Western Iowa Telephone Ass'n Petition for Clarification or Declaratory Ruling, WC Docket No. 10-90 (July 10, 2019). In that case, the question is whether certain locations "count" in light of the Commission's own rules and the realities of business operations in rural America; by contrast, the instant Public Notice seeks comment on what the consequences may be to the extent that the number of locations (however defined) that in fact exist in a given area is fewer than the number of locations allocated by the A-CAM. Of course, if proper account is taken of how certain kinds of business locations were included within the model as initially designed, this might help mitigate – but still would not resolve – the second question of what happens should location shortfalls arise.

A recent study by CostQuest Associates – the developers of the A-CAM – underscores this point. In July 2018, CostQuest examined the fundamental economics of rural infrastructure deployment across various industries in discussing what kinds of subsidies may be needed to facilitate and sustain such infrastructure.[6] This study concluded that a significant portion of the cost of deploying broadband is comprised of "distance-caused costs (costs that are fixed or insensitive to the number of housing units)."[7] Two diagrams in that paper demonstrate in particular how location counts have a marginal effect at most on the overall cost of network deployment. Specifically, in Figure 3, CostQuest depicts a hypothetical area with six locations in it. The overall cost of a fiber deployment project in that area is estimated at $104,490, or $17,415 per location and $34,830 per mile.

In Figure 4, however, CostQuest quadruples the density for that same area – assigning twenty-four locations to it rather than merely six. The overall cost of the fiber deployment project of course does not quadruple, however, simply because the locations do. Instead, the overall cost increases to $110,340; in other words, despite four times the number of locations being served, the cost increases by only $5,850, or approximately six percent. (Logically, the cost per mile increases just slightly as well – by $1,950, or the same 6 percent.) The only material change comes in the *per-location* cost of the overall deployment, which drops dramatically from $17,415 to $4,597 when the number of locations and density quadruple. But this per-location view, of course, is highly misleading because it says nothing at all as to the actual overall cost of deploying the network in that area – as the comparison between these two

---

[6] Steve G. Parsons, Parsons Applied Economics, and James Stegeman, CostQuest Associates, *Rural Broadband Economics: A Review of Rural Subsidies* (July 11, 2018) (available at: https://www.costquest.com/uploads/pdf/ruralbroadbandeconomics-areviewofruralsubsidiesfinalv07112018r2.pdf).

[7] *Id*. at Figure 2, p. 11.

figures in the CostQuest paper shows, the only difference in costs between the two figures arises in the efforts to "complete the last mile" to the eighteen additional locations in Figure 4. In other words, those additional locations lead logically not to a quadrupling of cost, but rather a mere six percent increase in the project's overall cost reflecting the additional costs specifically of drop fiber and ONTs.[8] By the same token then, moving from 24 locations to six clearly does not result in avoidance of 75 percent of the costs of deploying the network in that area – demonstrating why a *pro rata* reduction in support for such costs would make little to no sense from a "real world" perspective.

This analysis is supported by other evidence in the record of this proceeding comparing actual efforts at network deployment in rural areas with cost model estimates. Specifically, in 2015, Vantage Point Solutions conducted and submitted into the record of this proceeding a study analyzing 144 network construction projects across the country, concluding that "[w]hen considering A-CAM estimates for all 144 wire centers as a group, the A-CAM performs reasonably well, seeming to somewhat accurately estimate deployment costs." Yet, Vantage Point added, "[o]n a wire center-by-wire center basis, however, the model lacks precision. In almost a third of the cases, the A-CAM capex results for a wire center differ by more than 30% from the engineering data for that wire center."[9] Put another way, the A-CAM performs reasonably well in identifying costs of deploying networks on a broader scale as it was designed

[8] *Id.* at Figures 3 and 4. The tables included within Figures 3 and 4 drive this point home most clearly, showing that but for the costs of 18 additional ONTs and 1,500 additional feet of drop fiber, there is *no difference at all* in the costs incurred to deploy a network throughout the area in question.

[9] *See Ex Parte* Letter from Larry Thompson, Chief Executive Officer, Vantage Point Solutions, to Marlene H. Dortch, Secretary, Commission, WC Docket No. 10-90 (dated July 13, 2015) ("Vantage Point Analysis"), at p. 2.

to do, but the threads begin to fray when examined on a more granular level or, certainly, in estimating location-specific costs and ensuing support needs. With all this as background on rural broadband network economics, the Commission should therefore approach the question of what reductions in support should follow in the event of location discrepancies by taking account at most of *location-specific deployment costs* in lieu of sweeping per-location estimates and *pro rata* reductions.[10]

This "real world" dynamic confirming that networks are built to serve geographic areas rather than discrete locations on a one-by-one basis is buttressed by the design of the cost model itself. CostQuest has indicated in the past that its models generally estimate the "capital requirements (incorporating density and terrain drivers of costs)" and "monthly operational costs" for 160 million residential and business locations along road segments across the U.S.[11] Thus, these network cost models are based on the cost of deploying facilities to large swaths of geographic territory, rural and urban alike, rather than estimating the costs of individual, bespoke connections to discrete locations. In fact, even when the predecessor to A-CAM was first being

[10] Indeed, if the Commission were to determine that A-CAM support should be *reduced* on a *pro rata* basis for each location that is found not to exist, then as a matter of logical consistency, the Commission should be willing to *increase* A-CAM support on the same *pro rata* basis if and when a provider discovers that more locations exist than the model identified and chooses to serve those. (Of course, no such obligation would exist, but if the provider were willing to do so, tying locations and support in a *pro rata* manner would beg the question why this approach would be only a "one-way ratchet" – *i.e.*, why that provider should not get more support for choosing to serve more locations than obligated?) Such reasoning would of course suffer from the same flaws noted above because, as a practical matter, the additional variable costs incurred to "complete the last mile" for such additional locations are likely marginal on average – but consistent application of logic would warrant such an outcome if the Commission were to adopt a *pro rata* approach here.

[11] *See* Testimony of James W. Stegeman, President of CostQuest Associates, Inc. before the Subcommittee on Telecommunications and Technology, U.S. House of Representatives (March 21, 2017), at p. 13.

designed, it was made quite clear from the start that the locations being identified were *not* actual locations; rather, what was being done was an *estimation* aimed at scattering as best as possible – but still with room for relatively significant error – the number of locations that were presumed to exist in total across census blocks based upon incomplete records.[12] CostQuest has further explained that in developing the "Cost to Serve Module" of its model, costs were identified and estimated to serve entire geographies along road segments and develop "average costs" across "geographic bands" – and to deliver "results by census block" rather than to develop a literal location-by-location estimate of broadband networks in rural areas.[13] Thus, both the model design itself and "real world" network economics confirm that the costs of deploying networks are incurred geographically throughout an area, largely independent of the effects of reaching individual locations.

III. THE COMMISSION SHOULD TAKE STOCK OF THE COSTS OF DEPLOYING A NETWORK WITHIN, AND THEN SERVING, AN ENTIRE AREA IN FASHIONING A REMEDY FOR LOCATION DISCREPANCIES.

Recognizing to some degree that the model's imprecision at granular levels could undermine the certainty otherwise intended through the provision of universal service support, the Commission thoughtfully established a 95% of locations threshold, or allowance, to account for the possibility that every location specified in an area designated for A-CAM support may

[12] *See Ex Parte* Letter from James W. Stegeman, President, CostQuest Associates, Inc., to Marlene H. Dortch, Secretary, Commission, WC Docket No. 10-90, *et al*. (dated April 17, 2012), at Attachment A, Slide 7 (noting "on average," a success rate of 80-95% for allocation of geocoded locations "to the street segment," along with the need to "fall back to an accepted process of surrogation to the roads within a census block" for those records that do not have "some geocoding attached").

[13] *See* CAF2 Model Overview, CostQuest Associates, at pp. 61 and 91 (available at: https://transition.fcc.gov/wcb/tapd/universal_service/caf/CAF2-Part1.pdf).

not exist.[14] However, it has become increasingly clear that even this 95% threshold is insufficient to address concerns about the discrepancies between allocation of locations in the model, especially in light of studies such as the Vantage Point Analysis showing as much as a 34 percent discrepancy in location counts in some areas.[15] NTCA therefore welcomes the Commission's solicitation of comment through the Public Notice on how best to resolve such concerns as they persist in many rural areas served by A-CAM electors.

The Commission has indicated that in the event winning bidders in the CAF Phase II auction discover shortfalls in location counts in rural areas, they may receive a *pro rata* reduction in support (in lieu of more stringent penalties) for each location that is found not to exist.[16] As an initial matter, NTCA submits that such a *pro rata* approach misses the mark for the reasons set forth above – primarily, that networks are built to serve entire geographies independent of individual location counts rather than targeting discrete locations on a one-by-one basis. NTCA therefore believes that the Commission should revisit this *pro rata* approach as well before conducting the next auction, and instead adopt measures more consistent with the realities of network deployment throughout rural geographies. There is, however, an additional basis to treat the receipt of model-based support differently than the CAF Phase II auction support when it comes to addressing location discrepancies. Specifically, in that auction, participants could choose which census blocks they intend to serve (and essentially pick the specific areas and

[14] *See* 2016 Rate-of-Return Reform Order, at ¶ 33. The Commission noted in creating this "allowance" that it would not require rate-of-return carriers to return support if they deploy to at least 95% of the required fully-funded locations "because they will use that support to maintain service and deploy new broadband to unserved customers" in the capped locations. *Id.* at fn. 68.

[15] Vantage Point Analysis, at Attachment D, p. 4.

[16] *See Connect America Fund et al.*, WC Docket No. 10-90 et al., Report and Order, 29 FCC Rcd 15644, 15659 (2014), at ¶¶ 38-39.

locations they believe they can serve with the funding secured through the auction),[17] whereas A-CAM recipients must serve eligible census blocks on a statewide basis.[18] This means that auction bidders have a better chance to carefully and strategically select those areas in which they will bid and thus have a greater ability to "manage" any potential concerns about location counts in advance. Thus, even if a *pro rata* reduction in support was deemed acceptable in the context of the CAF Phase II auction (and it should not be in auctions going forward for the reasons described above), a different system of reduction or adjustment is appropriate here to reflect the costs of building networks more broadly and in the absence of an opportunity to pick which parts of an area one will opt to serve.

As a result, and as described in the preceding section, when evaluating whether providers should be required to forgo a portion of their A-CAM support if there are fewer actual locations in a given eligible area than the model estimated, the Commission should consider that the A-CAM electors have already committed to serve those locations that *do* exist within the supported areas on a statewide basis.[19] Thus, it is not clear in the first instance why any reductions in support should follow as the provider would still be fulfilling the precise mission of universal service by pledging to serve all comers within the areas for which the carrier is receiving support. Moreover, both in the "real world construction" of a fiber network and in the model's estimation thereof, the only costs uniquely attributable to individual locations are those

[17] *See Connect America Fund, et al.*, WC Docket No. 10-90, *et al*., Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 5949 (2016).

[18] 2016 Rate-of-Return Reform Order, at ¶ 65.

[19] To be clear, however, there may still be some portions of a given area that a provider can reach only upon "reasonable request" because the Commission has capped funding. *See id*. at ¶¶ 26, 29, and 52. In the absence of full funding, such areas would continue to be subject to deployment only upon "reasonable request."

associated with the "drop" and the ONT – costs that (as the preceding section indicates) are a fraction of the overall cost of installing network throughout an area, and which the model might even effectively treat as covered by the $52.50 per month that the customer at each location is presumed to pay (meaning that these "location-unique" costs would then not reside at all in the level of support provided by the model, such that no reductions in support should follow).

At most, prior to reducing A-CAM support simply because some locations that the model initially allocated to a given area are found not be located in that area after all, the Commission should conduct an evidentiary analysis to determine what variable costs would be shed or avoided in that circumstance, and whether and to what degree A-CAM support is covering those costs. Part of that analysis should include a consideration of ongoing operating expenses as well; while the discussion herein has focused primarily upon capital expenditures and the initial costs of network deployment, there are likewise ongoing operational demands that are, at least in significant part, agnostic as to the count of individual locations. All of these costs, and the ways in which they manifest in A-CAM support, should be studied more closely and considered prior to specifying what kinds of reductions may follow in the event that fewer locations exist than the model initially indicated.

IV. CONCLUSION

For the foregoing reasons, NTCA respectfully requests that the Commission decline to reduce support for those A-CAM electors that are willing to commit, as described herein and consistent with the level of funding they receive, to serve throughout their supported areas. To do so would be consistent with the model's design, which includes the cost of deploying and maintaining a network, almost all of which is used to deploy and maintain every location served by the network and cannot be adequately attributed to one or more specific locations. Moreover,

if the Commission decides nonetheless that it will reduce A-CAM support in some way for an operator that has otherwise committed to serve throughout its supported areas, before doing so, the Commission must conduct an evidentiary review in which it first assesses what specific costs might be shed or avoided as a result of locations that are found not to exist despite the initial model allocation, and then assesses the degree to which any of those costs are in fact included within A-CAM support such that support should be reduced.

Respectfully submitted,

By: */s/ Michael Romano*
Michael Romano
Tamber Ray
4121 Wilson Boulevard, Suite 1000
Arlington, VA 22203
mromano@ntca.org
tray@ntca.org
703-351-2000 (Tel)